CASE STUDY #1

HMO BACKGROUND

- Since diabetes mellitus is one of the most serious and prevalent chronic diseases in the nation, management staff for this HMO felt compelled to monitor how well its members and providers were managing the disease.
- In 1999, the HMO staff identified a significant number of members (3.2%) over the age of 18 as having diabetes through administrative claims and pharmacy data. Diabetes was noted as a top condition in the HMO's Evaluation & Management and Diagnostic Related Group reports in 1997 and 1998. A cost analysis revealed that utilization for HMO members with diabetes was about three times that of the average HMO member within the commercial group.
- The HMO implemented a diabetes program, including a diabetes registry, to track members and their diabetes care providers.
- The HMO participated in a statewide initiative to develop uniform diabetes clinical practice guidelines *(Essential Diabetes Mellitus Care Guidelines).* The HMO adopted the ***Guidelines*** as the foundation for its diabetes improvement program and targeted implementation activities at a wide variety of providers, including physicians, nurse practitioners, and physician assistants in the areas of general internal medicine, general practice, family practice, endocrinology, and some specialties that also served as primary care providers.
- Quality improvement initiatives targeted providers, members and the health system.
- Management staff decided to monitor improvement of care through the new HEDIS® Comprehensive Diabetes Care measures.

METHODOLOGY

The HMO used HEDIS® 2000 methodology to assess baseline data for four Comprehensive Diabetes Care Measures: eye exam performed, LDL-C screening performed, LDL-C control, and nephropathy monitoring.

BASELINE FOR SELECTED HEDIS â COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring
Baseline, HEDIS® 2000 (CY 1999 data)	66.9%	68.3%	39.9%	41.6%

BASELINE BARRIER ANALYSIS

HMO work groups comprised of medical directors, nurses and staff completed internal barrier analyses to identify opportunities for improvement. The Quality Improvement Committee (QIC), including HMO physicians who represent various geographic regions and practice specialties, conducted further barrier analyses and identified the following barriers through brainstorming techniques:

- HMO providers lacked knowledge of optimal diabetic management recommendations for eye exams, LDL-C screening and goals, and monitoring for nephropathy.
- The HMO system lacked effective mechanisms to help the HMO and providers identify which of their patients were due for exams.
- HMO members were either not aware of the importance of yearly exams or didn't get them.
- HMO members were not aware of the recommended value for LDL-C goal.
- HMO members lacked tools to track diabetes services received throughout the year.

BASELINE INITIAL INTERVENTIONS

Interventions were designed and implemented to address the barriers identified by the HMO workgroups and the QIC. Interventions were **multi-faceted** and included **activities directed at HMO members, HMO providers, and the system.** The proposed interventions were submitted to the HMO's QIC for review and approval for implementation.

- The HMO promoted diabetic eye exams, LDL-C screening and control, and nephropathy monitoring through **direct distribution** of the health HMO's diabetes guideline, "Clinical Practice Guideline for Initial Management Plan and Follow-up of Diabetes Mellitus" and the ADA's "Clinical Practice Recommendations" to providers via mail. HMO ***Guidelines*** were **laminated** for durability and distributed for use in office exam rooms. **Cover letters signed by the medical director** were sent with the ***Guidelines*** to stress the latest recommendations. The HMO posted the diabetes ***Guidelines* on their web site** for easy access with a printable format.
- The HMO developed **a "service report" tracking and management tool,** listing each provider's diabetes patients and indicating whether there was **evidence** of flu shots, A1c tests, lipid and microalbumin screening, and eye exams over the past two years **[tool #1]**.
- Screening tests and good control were promoted through publication of **articles in the quarterly provider newsletters** (e.g., "Diabetes and Management of Dyslipidemia, **feedback on HEDIS®** reports, etc.).
- New HMO providers received a "**new provider orientation packet**" that included diabetes ***Guidelines*** with an emphasis on screening recommendations and other pertinent information describing the diabetes program.
- The HMO promoted annual diabetic services through **direct distribution of a personal diabetes care wallet records** to members.
- The HMO distributed a "**member service report" via direct mail** that indicated whether or not there was **evidence** of flu shots, A1c tests, lipid and microalbumin screening, and eye exams **[tool #2]**.
- The HMO published **special articles in the quarterly member newsletter** to address the importance of eye exams, lipid screening and control, A1c monitoring every 3-6 months, and nephropathy monitoring.
- The HMO **distributed a 500-page ADA reference book**, *Complete Guide to Diabetes Care*, explaining diabetes care management to **all active members in the diabetes registry.**

RE-MEASUREMENT #1 using HEDIS® 2001methodology revealed improvements in each of the measures. The HMO attributed these improvements to its **multi-faceted interventions that targeted all sectors: HMO members, providers, and the system**.

SELECTED HEDIS â COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C Screening performed	Lipid control (< 130 mg/dl)	Nephropathy monitoring
Baseline, HEDIS® 2000 (CY 1999 data)	66.9%	68.4%	39.9%	41.6%
HEDIS® 2001 (CY 2000 data)	83.5%	77.4 %	54.5%	47.2%

RE-MEASUREMENT #1 BARRIER ANALYSIS by the QIC identified the following issues:

Despite improvement in all measures from baseline HEDIS® 2000 to HEDIS® 2001, performance continued to be below that of the 90th percentile reports from Quality Compass® and state benchmarks. Continued efforts would be directed to identify barriers to reach performance goals. This barrier analysis identified that:

- Eye exam findings were often missing from the medical record in primary care setting, thus providers were not aware of eye exam status or findings.

- All providers were not aware of the importance of recommended annual diabetes tests and goals.
- Use of patient-specific tracking and management tools were not being maximized.
- Questions were raised whether providers agreed with some of the testing recommendations (e.g., yearly screenings for LDL-C and microalbuminuria, whether the microalbumin test is an accepted method for monitoring nephropathy).
- Members were unaware of the importance of yearly tests and exams or didn't get them done.
- Members lacked tools to track services they needed/received.

DECISION MADE TO CONDUCT AN EDUCATIONAL SURVEY

The QIC approved the proposal to conduct an **educational survey** to **assess provider knowledge and opinions of *Guideline* recommendations** for monitoring nephropathy and LDL screening and control **[tool #3].** The **purpose was two-fold**: to educate providers on screening methods and goals and to assess barriers to LCL-C and microalbuminuria screening. The survey included questions to ascertain **awareness of the option to test for LDL-D (direct measurement) if triglycerides are too high to calculate the LDL-C and the option to use a random spot urine test to assess microalbuminuria.**

EDUCATIONAL SURVEY RESULTS

The HMO sent the survey to 350 health plan providers in July 2001 and received a 53% response rate within several weeks. An analysis of findings revealed:

- Although 94% agreed with annual LDL testing, 28% of providers were not aware of the option to order LDL-D when the LDL-C cannot be calculated.
- Although 88% agreed with the recommendation for LDL-C < 100mg/dl, 7% of providers were not aware of this.
- Although 92% of providers agreed with the recommendation to test yearly for microalbuminuria in the absence of existing nephropathy, 5% disagreed with the recommendation. More than 2% were unaware of this recommendation.
- Only 12% of providers were aware that screening for microalbuminuria could be assessed through random spot collection, which is the easiest sample to obtain in the office setting.

INTERVENTIONS SUBSEQUENT TO RE-MEASUREMENT #1

- The HMO **reported results of the educational survey in a mailing to all diabetes care providers** to address the barriers identified in the survey in September 2001. They included **educational information** regarding lipid screening and control and nephropathy monitoring, as well as information on the appropriate use of the LDL-D screening (including the appropriate CPT code) and the random spot urine collection.
- The HMO **distributed diabetes *Guidelines* and other relevant diabetes information directly** to providers.
- The HMO sent **annual "service reports" to HMO providers** listing evidence of (or lack of) diabetes exams (eye exam, A1c test, lipid screening, microalbuminuria screening, and influenza immunization) for their panel of patients. (Effective in 2003, a service report is sent to provider mid-year to remind them of services to be conducted on their patients).
- The HMO provided **feedback on the results of the HMO's HEDIS â performance** to providers through the quarterly provider newsletters. This was used as an opportunity to **clarify recommendations and make appeals** to provide comprehensive diabetes care.
- In early 2002, the **HMO distributed a diabetes continuing education series** (with continuing medical education credits) to diabetes providers. The purpose was to improve care and performance on diabetes measures, including LDL-C screening and nephropathy monitoring.
- The HMO **participated in the Wisconsin Collaborative Diabetes Eye Care Initiative** to promote diabetic eye exams through an appeal to providers and HMO members. The Initiative also promoted communication of eye exam results and recommendations from the eye care specialist to the primary

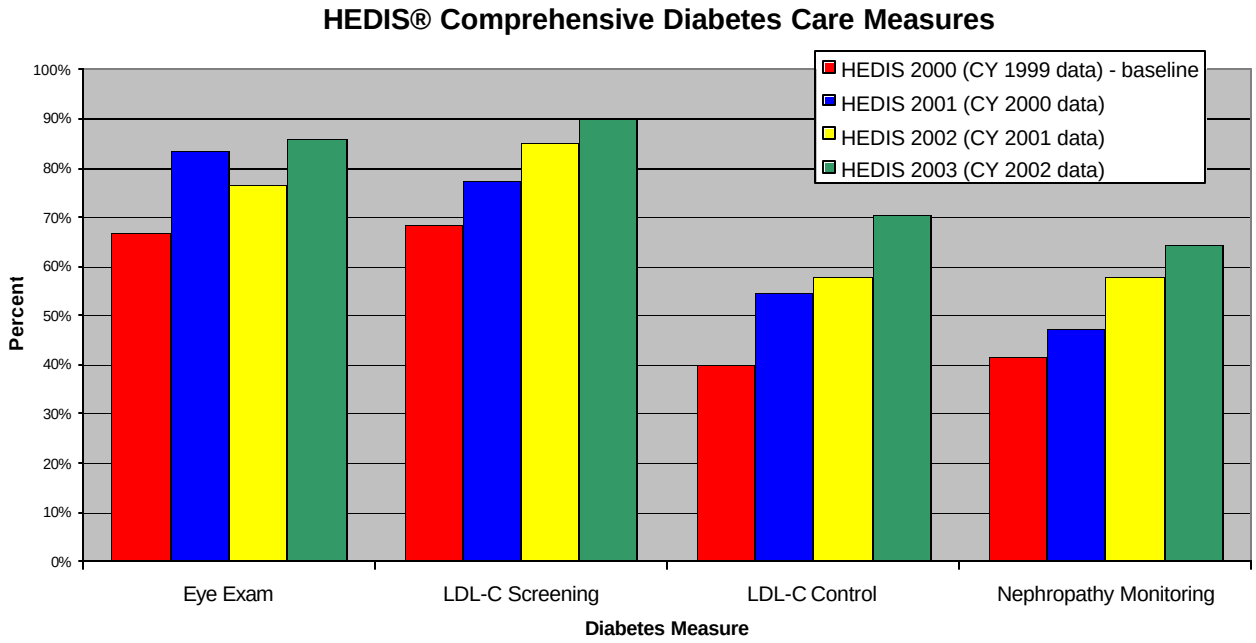
care provider through a special reporting form. The HMO sent **a targeted mailing to diabetes registry members lacking evidence of eye exams.**

- The HMO sent **annual "member service reports" to diabetes registry members** that listed whether or not they had a evidence of a diabetes eye exam, flu shot, A1c test, lipid screening, or microalbumin screening.
- The HMO sent **targeted educational mailings to diabetes registry members** and promoted exams through the member newsletter. Some of these articles included: a description of LDL-C screening and control as a means to prevent complications; "Diabetes and Preventing Kidney Disease" and "Avoiding Complications of Diabetes."
- The HMO sent **personal diabetes care records to members upon enrollment in the program and annually thereafter** to help them keep track of their exams.
- The HMO sent an **annual eye exam reminder to all members in the registry who did not have evidence of an eye exam in the first half of the year.** The **eye exam communication form** was included.
- The HMO conducted a **member survey** to registry members in the fall of 2002 to ask about **the utility of educational materials** sent by the diabetes program. A comment section was included so that any issues with the program or HMO operations could be identified **[tool #4]**.

RE-MEASUREMENTS #2 AND #3 remained consistent with HEDIS methodology. Results from CY 2001 data revealed improvements in LDL-C screening, LDL-C control and nephropathy monitoring, and a decrease in the rate of eye exams. Results from CY 2002 data revealed improvements in each of the four measures.

SELECTED HEDIS â COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C Screening performed	LDL-C Control (< 130 mg/dl)	Nephropathy monitoring
Baseline, HEDIS® 2000 (CY 1999 data)	66.9%	68.4%	39.9%	41.6%
HEDIS® 2001 (CY 2000 data)	83.5%	77.4%	54.1%	47.2%
HEDIS® 2002 (CY 2001 data)	76.4%	85.2%	57.9%	57.9%
HEDIS® 2003 (CY 2002 data)	85.9%	89.8%	70.3%	64.2%



ONGOING CHALLENGES

Based on provider feedback and input from the physicians who participate on the HMO QIC, ongoing challenges to assure that recommended diabetes services are done are related to provider and member's reminder systems. Providers are continually pressed for time and an **organized reminder system** would be ideal. With that in mind, the HMO designed **tear-off sheets** in 2003 that can be temporarily affixed to diabetic charts before the office visit **[tool #5]**. These sheets are not intended to be a permanent document and can be disposed of at each visit. The HMO also decided that **interventions targeted to HMO members would continue** to include personal reminders of needed services.

LESSONS LEARNED
• The most successful approaches target all sectors of care (members, providers, and systems).
• Physician involvement in the barrier analysis, educational surveys, service provider reports, feedback reports, and intervention design is essential to gain their buy-in.
• Provider Service Reports and reporting of HEDIS® results are useful tools to increase preventive exams and provide feedback on adherence to *Guidelines* (thus, the plan has increased the frequency of these reports to twice a year).
• Easy accessibility of *Guidelines* and up-to-date scientific information are essential for providers.
• A diabetes registry is crucial to target interventions to members in need of services and to provide regular communication and educational reinforcement on good diabetes management.
• Responses from provider and member to surveys have been substantial, so the HMO will continue to utilize this method to identify barriers and get feedback to improve program components

TOOLS INCLUDED WITH THIS SUMMARY

#1: Provider Service Report
#2: Member Service Report
#3: Provider Survey of Diabetic Monitoring – LDL and Microalbumin
#4: Member Survey of Diabetes Care Tools
#5: Diabetes Office Check List

TOOL #1

(Dr. Name here) The list of patient names below were derived from: a) b) c) d)	**Plan "A" Guideline** **"Initial Management Plan and Follow-up of Diabetes Mellitus"** [1] *Plan "A's" record of the listed services is based on claims turned in for reimbursement for each patient.*									
	Dilated Eye Exam **Recommended Frequency:** Type I – After 3 yr. duration and then yearly Type II – At diagnosis and then yearly		**Influenza Vaccine** **Recommended Frequency:** Yearly for Adults and Children more than 6 months		**Hemoglobin A1c** **Recommended Frequency:** Every 3-6 months ("x" indicates HbA1c measured > than once in the listed year) **Goal Value:** < 7		**Lipid Profile** **Recommended Frequency:** Yearly for adults with diabetes **Goal Values:** Total-< 200 HDL-> 45 LDL-<100 Triglycerides-<150		**Urine test for microalbumin** **Recommended Frequency:** Yearly for adults with diabetes if microalbumin is <300mg in 24 hours **Normal Values:** <30mg in 24 hour, <30ug/mg creat. random spot, <20ug/min timed urine collections (If microalbumin >300mg/24 hours, check creatinine clearance & protein yearly)	
Name DOB (MH# for MC)	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002
Sample patient#1 00/00/00										
Sample patient										
Sample patient										
Sample patient										
Etc.										

* An asterisk on the far right column indicates the patient has existing nephropathy therefore, microalbumin testing is not recommended.

[1] The Wisconsin Diabetes Control Program. (2001). "Essential Diabetes Mellitus Care Guidelines." National Cholesterol Education Program (2001). Adult Treatment Panel II. American Diabetes Association: Clinical Practice Recommendations 2001. Volume 24, Supplement 1.

(INSERT Provider Name HERE)

TOOL #2

<table>
<tr><td colspan="2" rowspan="3">Company logo goes here</td><td colspan="10">Guideline:
Initial Management Plan and Follow-up of Diabetes Mellitus</td></tr>
<tr><td colspan="10">Plan "A's" record of diabetes related services provided to you are listed below. Evidence of services (as marked by an "X") is based on Plan A payment from a billing provider. If we were not billed, an X will not be marked for the test.</td></tr>
<tr><td colspan="2">Flu Shot

<u>Recommended Frequency</u>

Yearly for adults and children more than 6 months old</td><td colspan="2">Hemoglobin A1c

<u>Recommended Frequency</u>

Every 3-6 months ("X" Means done more than once in the listed year)

<u>A1c Goal Value</u>
Below 7</td><td colspan="2">Cholesterol Levels

<u>Recommended Frequency</u>

Yearly for adults with diabetes

<u>Cholesterol Goal Values</u>
Total-below 200
HDL-above 45
LDL-below 100
Triglycerides-below 150</td><td colspan="2">Dilated Eye Exam

<u>Recommended Frequency</u>

Type 1 – Within 3 years of onset and then yearly

Type 2 – At diagnosis of diabetes and then yearly</td><td colspan="2">Urine test for protein (microalbumin)

<u>Recommended Frequency</u>

Yearly for adults with diabetes

<u>Microalbumin Goal Value</u>
Below 30</td></tr>
<tr><td><u>Name</u></td><td><u>ID#</u></td><td>2001</td><td>2002</td><td>2001</td><td>2002</td><td>2001</td><td>2002</td><td>2001</td><td>2002</td><td>2001</td><td>2002</td></tr>
<tr><td>First Name
Middle Initial
Last Name</td><td>xxxxxxxxx</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

***-A star in the last column means that a microalbumin test should not be done once you have developed kidney disease**

TOOL #3

Provider Survey of Diabetic Monitoring
-LDL and Microalbumin-

XX Health Plan has promoted and distributed the guideline for management and follow-up of patients with diabetes as part of the Diabetes Registry program since 1999. Our goal is to attempt to improve care delivery for diabetes overall in our population of diabetics. This guideline is adopted from multiple sources including, but not limited to the Wisconsin Diabetes Control Program (1998), results of the Diabetes Control and Complications Trial (DCCT), the American Diabetes Association (ADA), and the National Cholesterol Education Program (NCEP). We appreciate the fact that any guideline is not a substitute for your clinical judgement and an individual patient's situation.

We appreciate your cooperation by completing this survey designed to assess two aspects of the guideline: monitoring LDL and microalbumin. Anonymity is maintained with the returned surveys. *Please complete and return by Aug. 3, 2001.* An envelope is included or you can fax it back to:

Circle the response that applies to you (one answer only please)
Y=Yes N=No U=Unaware of recommendation

1. Do you agree with the recommendation to obtain a baseline urinalysis at diagnosis of diabetes? **[Y] [N] [U]**

2. Do you agree with the recommendation to perform urinalysis yearly for patients with diabetes? **[Y] [N] [U]**

3. Do you agree with the recommendation to obtain yearly urine for microalbumin for patients with diabetes? **[Y] [N] [U]**

4. Are you aware that urine for microalbumin can be performed as a random spot collection? **[Y] [N]**

5. Do you agree with the recommendation that if a spot collection is used to screen urine microalbumin initially, that a time collection be used for repeat testing? **[Y] [N] [U]**

6. Do you agree with the recommendation that an Ace inhibitor should be initiated if microalbumin is elevated and there is no contraindication to Ace therapy? **[Y] [N] [U]**

7. Do you agree with the recommendation to obtain a lipid profile, which includes triglyceride, HDL and LDL levels yearly for patients with diabetes? **[Y] [N] [U]**

8. Do you agree with the NCEP guidelines for LDL goal < 100mg/dl for patients with diabetes with and without coronary artery disease? **[Y] [N] [U]**

9. Are you aware that a LDL-D (direct measurement) can be ordered if the LDL-C cannot be calculated? **[Y] [N]**

If you have any additional thoughts about the recommendations for microalbumin screening, we would appreciate knowing your viewpoint. Comments: _____

_____

_____

If you have any additional thoughts about the recommendations for LDL screening, we would appreciate knowing your viewpoint. Comments: _____

_____

TOOL #4

Member Survey of Diabetes Care Tools

XX Health Plan wants to help you manage your diabetes. As part of our diabetes program, we have been providing you with some tools we hope will help you. These tools include the wallet *Personal Diabetes Care Record* and a list of your diabetes services received the previous two years (sent each year the month of May).

We would like to know if you think these tools are effective in assisting you with your diabetes management. Please complete the survey below and return it in the postage paid envelope enclosed by **(XX date).** Your input is important to us as we continually strive to best help you manage your diabetes.

Circle the response that applies to you (<u>one answer only please</u>)
Y=Yes N=No D=Did not receive

1. Do you use the wallet *Personal Diabetes Care Record* as a diabetes planning guide? **[Y] [N] [D]**

2. Do you use the wallet record to track your diabetes test results? **[Y] [N]**

3. Do you keep your record in your wallet? **[Y] [N]**

4. Do you use the record when in the office with your provider at diabetes-related visits? **[Y] [N]**

5. Each May, Plan sends you a list of diabetes services received in the previous two years (flu shot, eye exam, HbA1c, LDL and urine microalbumin).
Do you find this information to be helpful? **[Y] [N] [D]**

6. Do you use this service list as a planning guide for diabetes service in the current year? **[Y] [N]**

7. Do you take this service list with you when you see your diabetes care provider? **[Y] [N]**

8. Do you discuss diabetes tests that are recommended be done each year with your diabetes provider? **[Y] [N]**

9. Do you set personal goals for HbA1c and LDL with your diabetes provider? **[Y] [N]**

Do you have any suggestions to improve the wallet Personal Diabetes Care Record or the diabetes service list? We appreciate knowing your viewpoint.
Comments: _____

_____

_____

What do you feel we could do to better help you manage your diabetes?
We appreciate knowing your viewpoint. Comments:
_____

_____

_____

Thank You!

TOOL #5

Diabetes Office Visit Check List

TEST	FREQUENCY	GOAL	MOST RECENT		COMMENTS
			Date	Result	
☐ **HbA1c**	*Every 3-6 mo*	***< 7%***			
☐ **Lipid profile:**	*Yearly*				
LDL		***< 100mg/dL***			
HDL		*>45mg/dl*			
Triglycerides		*< 150mg/dL*			
Total Cholesterol		*< 200mg/dL*			
☐ **Microalbumin** **(random, spot or timed urine)**	*Yearly*	***< 30mcg/mg***			
☐ **Blood pressure**	*Each visit*	***< 130/80***			
☐ **Foot exam** **(with monofilament 10 spots each foot)**	*Yearly*				
☐ **Flu shot**	*Yearly*				
☐ **Pneumonia vaccine**	*Once**				
☐ **Dilated eye exam**	*Yearly*				
☐ **Medication review**	*Each visit; revise as needed*				

*Pneumonia vaccine booster recommended at age 65 if > 5 years since last immunization.

CASE STUDY #2

HMO BACKGROUND

- This HMO acknowledged the national prevalence and burden of diabetes and began using a diabetes team in its efforts to improve care over ten years ago.
- Efforts to develop a comprehensive database of members with diabetes began in 1997.
- This database generates patient reminders and provider reports to help facilitate proactive care and provides the foundation for the quality improvement program.
- The HMO developed and implemented a Diabetes Disease Management Program. Current details about the Program are located later in this summary.
- This HMO has a history of collaborating on community-related quality improvement issues with other health plans and organizations.

METHODOLOGY

The HMO used **HEDIS â 1999 methodology** to assess the 6 Comprehensive Diabetes Care Measures: diabetes eye exams performed, LDL-C screening performed, LDL-C control, nephropathy monitoring, A1c testing, and A1c poor control.

BASELINE FOR HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring	One or more A1c test	A1c poor control >9.5% ❖
Baseline, HEDIS® 1999 (CY 1998 data)	45.0%	68.1%	40.9%	41.6%	86.4%	38.0% ❖

BASELINE BARRIER ANALYSIS

The Diabetes Project Team, comprised of several PCPs, diabetes educators, and quality management staff identified the following barriers through brainstorming techniques:

- The HMO lacked a regularly updated database of members with diabetes to provide feedback to practitioners on the care of their members with diabetes.
- More comprehensive reports were needed for all providers.
- The HMO lacked diabetes clinical practice guidelines.
- There was no outreach system to contact members with diabetes.
- Members with diabetes lacked adequate understanding of importance of good control.
- Diabetes educators were not used frequently.

BASELINE INITIAL INTERVENTIONS

Multi-focused interventions were developed to impact on the health system, providers, and members with diabetes.

- The HMO worked to **continuously update its diabetes database**.
- The HMO **sent each PCP a list of their panel members with diabetes and asked them to check the accuracy of the information**.
- After validation, the HMO sent **comprehensive reports to the PCPs** indicating all diabetes visits, diabetes eye exams, tests, results, and information on the use of diabetes educators. [**tool #1 – current version**]
- The HMO sent PCPs **lists of their patients with diabetes who either had an A1c >10% or did not have an A1c** in the last 2 years.

- The HMO adopted the ***Essential Diabetes Mellitus Care*** **Guidelines** (***Guidelines***) and distributed them to all PCPs.
- The HMO sent **letters about their Diabetes Disease Management Program** to members with diabetes, including information about the **availability of diabetes educators.**
- The HMO sent **reminder letters to members** with diabetes who did not have a retinal exam in 1999.

RE-MEASUREMENT #1 using 2000 HEDIS® methodology revealed that 5 of the 6 Comprehensive Diabetes Care Measures improved from baseline. The A1c testing measure declined slightly, however the rate was already quite high.

HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring	One or more A1c test	A1c poor control >9.5% ❖
Baseline, HEDIS® 1999 (CY 1998 data)	45.0%	68.1%	40.9%	41.6%	86.4%	38.0% ❖
HEDIS® 2000 (CY 1999 data)	57.4%	75.9%	51.8%	43.1%	85.4%	31.9% ❖

❖ Lower percent desired

RE-MEASUREMENT #1 BARRIER ANALYSIS

The Diabetes Project Team reviewed the data and the identified the following ongoing barriers:

- Some providers lacked feedback on their care to members with diabetes.
- There was a need for more comprehensive reports.
- Members with diabetes lacked adequate understanding about importance of good control.
- Members were unaware of the availability of diabetes educators, thus these services weren't being used frequently.

INTERVENTIONS SUBSEQUENT TO RE-MEASUREMENT #1

- The HMO **continued to expand its database** and used the information to send updated **diabetes-related reports** to PCPs.
- The HMO sent PCPs lists of members with diabetes who either didn't have an A1c in the last year or who had an **A1c >9.5%.**
- The HMO **expanded efforts to improve diabetic eye exams:**
  - Letters, an educational brochure, and a reminder about the need for eye exams were sent to all members with diabetes.
  - **Targeted reminder letters** were sent to members who did not have evidence of an eye exam in 2000.
  - The HMO sent educational information to members with diabetes (e.g., "Diabetes and Your Eyes" by the American Optometric Association).
  - **Copies of information about the HMO initiative were also sent to the PCP**.
- The HMO **informed members with diabetes and their PCPs about the Diabetes Disease Management Program** and the **availability of diabetes educators** .
- The HMO developed a **free diabetes education program**. The education program is a flexible, 4 part series that is offered one evening a week and is available to any member with diabetes. Since the classes are offered continuously, members are able to start at any time in the series.

RE-MEASUREMENT #2 using HEDIS® 2001 methodology revealed improvements in all six Comprehensive Diabetes Care Measures.

HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring	One or more A1c test	A1c poor control >9.5% ❖
Baseline, HEDIS® 1999 (CY 1998 data)	45.0%	68.1%	40.9%	41.6%	86.4%	38.0% ❖
HEDIS® 2000 (CY 1999 data)	57.4%	75.9%	51.8%	43.1%	85.4%	31.9% ❖
HEDIS® 2001 (CY 2000 data)	60.6%	82.2%	56.2%	56.4%	87.8%	31.6% ❖

❖ Lower percent desired

RE-MEASUREMENT #2 BARRIER ANALYSIS by the Diabetes Project Team identified the following ongoing issues:

- There continued to be a lack of feedback to all of the HMO providers on their care to members with diabetes.
- Members with diabetes had an inadequate understanding of the importance of good control.
- The use of diabetes educators was still inadequate.

INTERVENTIONS SUBSEQUENT TO RE-MEASUREMENT #2

- The HMO continued to **enhance the database** to provide comprehensive reports to **all providers.**
- The HMO continued its **efforts to contact members to remind them to get needed tests.**
- **Members are reminded of the availability of diabetes educators and encouraged to make appointments with them.**
- Diabetes educators provided **general counseling and care** for members with diabetes.
- The HMO continued to provide **educational programs** for members.
- The HMO continues to enhance its **Diabetes Disease Management Program**.
  - The Program helps members age 18 and over to improve control of their diabetes and reduce risk factors leading to complications, morbidity, and death.
  - The HMO identifies eligible Program members through claims and pharmacy data according to HEDIS® specifications, but **does not use the continuous enrollment criteria**.
  - The HMO **sends letters explaining the Program to all eligible members twice** a year. The letter also includes information about the availability of diabetes educators and nutritionists to help support them in managing their medical problems. The **opportunity to "opt out'** of the Program is provided.
  - **Any member with diabetes can participate** in the Program and can schedule appointments with the educators.
  - The HMO **creates its diabetes registry through this process** and updates it quarterly.
  - **Program interventions are based on stratification.** Members are stratified into 3 levels:
    - **Tier 1:** A member **not on insulin with A1c less than 7.0%.** Interventions are limited to semi-annual mailings of educational materials and needed lab tests and materials.
    - **Tier 2**: A member with A1c between **7.0% and 9.0%.** Interventions include:
      - Semi-annual mailings of educational materials and needed lab tests and materials;
      - Availability of diabetes nurse educators and nutritionists to help manage medical problems.
    - **Tier 3**: A member with **A1c above 9.0%**. Interventions include:
      - Semi-annual mailings of educational materials and needed lab tests and materials;
      - Availability of diabetes educators and nutritionists to help manage medical problems;
      - **Active outreach** by diabetes nurse educators and nutritionists to ensure members make and keep appointments.

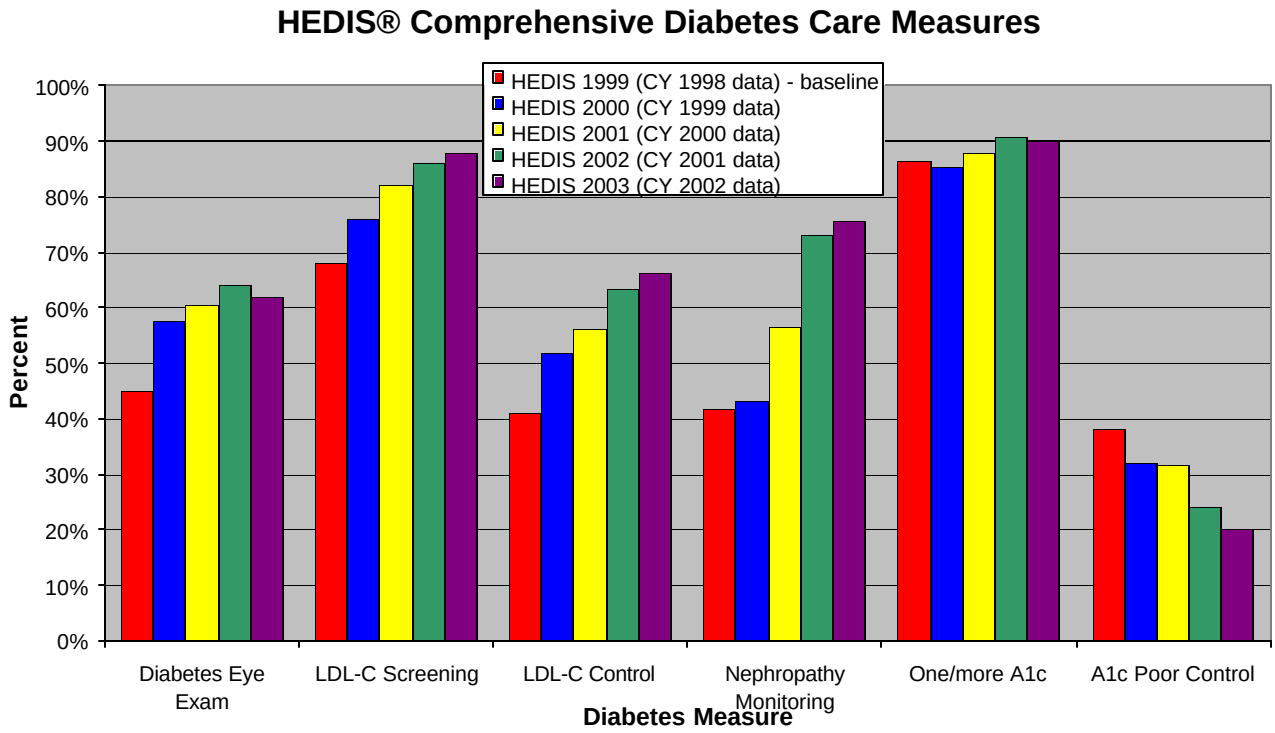
- The HMO sends a **semi-annual report to PCPs** that list their panel of members with diabetes including monitoring information about visits, lab tests, and results. PCPs receive information about the Program and how they and their members can use it.
- **Diabetes Disease Management Program components** include:
  - **Condition monitoring**
    - This includes a review of dates and results of A1c testing, and lipid panels; the most recent dates of nephropathy screening and diabetes retinal exams.
  - **Patient adherence to treatment plans**
    - Diabetes educators and nutritionists work with members in Tier 3 to monitor their adherence to daily testing of blood glucose, appointments with the PCP, and quarterly A1c testing.
  - **Consideration of other health conditions**
    - The Program identifies members with diabetes who also have coronary artery disease and hypertension and provides this information to the PCP in the semi-annual reports. Diabetes nurse educators and nutritionists also use the reports when working with members.
  - **Diabetes educators and nutritionists address lifestyle issues** by
    - Reviewing lifestyle issues, such as exercise, diet, smoking, etc., with members;
    - Presenting information at the diabetes education classes;
    - Encouraging every newly diagnosed member to attend the education classes;
    - Using the "Stages of Change" Model.

RE-MEASUREMENTS #3 AND #4 remained consistent with HEDIS® methodology and revealed steady improvements in LDL- C screening and control, nephropathy monitoring, A1c testing, and A1c control. Eye exams decreased slightly in calendar year 2002.

HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring	One or more A1c test	A1c poor control >9.5% ❖
Baseline, HEDIS® 1999 (CY 1998 data)	45.0%	68.1%	40.9%	41.6%	86.4%	38.0% ❖
HEDIS® 2000 (CY 1999 data)	57.4%	75.9%	51.8%	43.1%	85.4%	31.9% ❖
HEDIS® 2001 (CY 2000 data)	60.6%	82.2%	56.2%	56.4%	87.8%	31.6% ❖
HEDIS® 2002 (CY 2001 data)	64%	85.9%	63.3%	73%	90.8%	24.1% ❖
HEDIS® 2003 (CY 2002 data)	62%	87.8%	66.2%	75.7%	90%	20% ❖

❖ Lower percent desired



ONGOING CHALLENGES

This HMO has been able to expand its diabetes database over time to facilitate proactive care to their members with diabetes. The database generates patient reminders, comprehensive reports for providers, and valuable data for quality improvement and evaluation purposes. Overall feedback on the provider reports has been mixed. Many providers find the information very useful to allow them to better manage the care of their patients with diabetes. Other providers feel overwhelmed by the large number of patients they have with diabetes and the comprehensive nature of their needs.

This HMO is constantly challenged to try to find ways to support these busy providers in their daily practice. Expanding the role of diabetes educators in outreach and case management efforts to the high-risk members has provided some relief and enhanced diabetes care. The HMO has also initiated patient reminder letters that function as standing orders for lab work, allowing easy access for members with diabetes to receive these needed services [**tool #2**].

LESSONS LEARNED
• Trained diabetes teams are vital to the HMOs quality improvement process.
• Busy physicians need ongoing support to help manage the extensive needs of patients with diabetes.
• Direct, outreach interventions to members with diabetes were more effective than provider-focused interventions.
• A comprehensive, up-to-date diabetes database is essential for proactive care interventions.
• Re-defining and expanding the role of diabetes educators can help optimize care, ensure provision of needed services, and enhance patient self-management skills.
• Building flexibility into diabetes education classes can enhance participation.

TOOLS INCLUDED WITH THIS SUMMARY

#1: Physician Report
#2: Lab Standing Order Letter

CITY CLINIC

JONES MD, DANNY

Member Demographics	Diagnosis and Diabetic Rx fills	Most Recent Lab and Eye Exam		
			Date Tested	**Results**
Name: WIRE, BOBBY	Diabetes Diagnosis Freq: 62			
ADDRESS: 123 WEST AVE MADISON, WI 99999	Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II	Last A1c:	07/07/2003	7.1
	Last Diagnosis On: 08/04/2003	Last LDL:	07/24/2003	72
	Last to Diagnose: SMITH MD, MARTIN	Last Micro-Albumin:	04/24/2003	<5
MEM#: 1234 HOME PHONE				
DOB: 99/99/9999 999-999-9999		Last Retinal Eye Exam:	02/18/2003	
SEX: F RxBen?: Y	Last Diabetic Rx: 06/16/2003 GLYBURIDE			
Name: BUSH,CARLA	Diabetes Diagnosis Freq: 20		**Date Tested**	**Results**
ADDRESS: 131 E WILBUR ST MADISON, WI 99999	Last Diabetes Diagnosis: DIABETES UNCOMPL JUVEN-TYPE I	Last A1c:	07/23/2003	6.4
	Last Diagnosis On: 08/06/2003	Last LDL:	04/08/2002	126
	Last to Diagnose: JONES MD, DANNY	Last Micro-Albumin:	04/15/2002	12
MEM#: 1234 HOME PHONE				
DOB: 99/99/9999 999-999-9999		Last Retinal Eye Exam:	02/03/2003	
SEX: F RxBen?: Y	Last Diabetic Rx: 06/23/2003 HUMALOG			
Name: ROTCH,MARSHA S	Diabetes Diagnosis Freq: 4		**Date Tested**	**Results**
ADDRESS: 221 NAPT RD MADISON, WI 99999	Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II	Last A1c:	04/11/2003	6.2
	Last Diagnosis On: 04/10/2003	Last LDL:		
	Last to Diagnose: JONES MD, DANNY	Last Micro-Albumin:	04/11/2003	134
MEM#: 1234 HOME PHONE				
DOB: 99/99/9999 999-999-9999		Last Retinal Eye Exam:	04/10/2003	
SEX: F RxBen?: Y	Last Diabetic Rx: 07/02/2003 GLIPIZIDE			
Name: JONES, ALBERT	Diabetes Diagnosis Freq: 18		**Date Tested**	**Results**
ADDRESS: 6727 PINE DR MADISON, WI 99999	Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II	Last A1c:	09/13/2002	14.6
	Last Diagnosis On: 03/17/2003	Last LDL:	09/20/2002	NOT CAL
	Last to Diagnose: UM CLINICS	Last Micro-Albumin:		
HOME PHONE				
DOB: 99/99/9999 999-999-9999		Last Retinal Eye Exam:	04/27/2003	
SEX: M RxBen?: Y	Last Diabetic Rx: 06/08/2003 HUMULIN N			

CITY CLINIC

JONES MD, DANNY

Member Demographics	Diagnosis and Diabetic Rx fills	Most Recent Lab and Eye Exam		
			Date Tested	**Results**
Name: REAL,MARI ADDRESS: 3604 BLUECROSS ST MADISON, WI 99999-0000 MEM#: 1234 HOME_PHONE DOB: 99/99/9999 999-999-9999 SEX: F RxBen?: Y	Diabetes Diagnosis Freq: 28 Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II Last Diagnosis On: 01/16/2003 Last to Diagnose: UM CLINICS Last Diabetic Rx: 06/15/2003 GLYBURIDE	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	01/11/2002 01/10/2002 10/18/2002 01/30/2003	7.1 114 4
Name: SCHOOL,RED G ADDRESS: 1923 LEROY ST MADISON, WI 99999-0000 MEM#: 1234 HOME_PHONE DOB: 99/99/9999 999-999-9999 SEX: M RxBen?: Y	Diabetes Diagnosis Freq: 6 Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II Last Diagnosis On: 04/16/2002 Last to Diagnose: JONES MD, DANNY Last Diabetic Rx: 07/09/2003 GLIPIZIDE	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	04/03/2002 04/03/2002 11/07/2001 05/24/2002	6.5 NOT CAL -
Name: LANE,ROCKY ADDRESS: 909 BACK RD STOUGHTON, WI 99999 MEM#: 1234 HOME_PHONE DOB: 99/99/9999 999-999-9999 SEX: F RxBen?: Y	Diabetes Diagnosis Freq: 47 Last Diabetes Diagnosis: DIAB NEURO MANIF ADULT Last Diagnosis On: 03/05/2003 Last to Diagnose: JONES MD, DANNY Last Diabetic Rx: 07/07/2003 ACTOS	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	03/07/2003 11/15/2002 03/06/2003 03/21/2003	8.3 92 55
Name: CHAPLAIN,CHARLES ADDRESS: 29214 VALLEY ROAD MADISON, WI 99999-0000 MEM#: 4321 HOME_PHONE DOB: 99/99/9999 999-999-9999 SEX: M RxBen?: Y	Diabetes Diagnosis Freq: 12 Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II Last Diagnosis On: 07/24/2003 Last to Diagnose: JONES MD, DANNY Last Diabetic Rx:	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	07/25/2003 07/24/2003 04/09/2003 08/07/2002	5.9 188 6

CITY CLINIC

JONES MD, DANNY

Member Demographics	Diagnosis and Diabetic Rx fills	Most Recent Lab and Eye Exam		
			Date Tested	**Results**
Name: MUDLACH,ARNOLD ADDRESS: 5318 WIND RD BREEZY, WI 99999-0000 MEM#: 3452 HOME PHONE DOB: 99/99/9999 999-999-9999 SEX: M RxBen?: Y	Diabetes Diagnosis Freq: 7 Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II Last Diagnosis On: 12/11/2002 Last to Diagnose: ORNWALD OD, JOAN Last Diabetic Rx: 06/15/2003 GLYBURIDE	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	05/04/2000 05/04/2000 05/04/2000 12/11/2002	NONE NONE NONE
Name: DANZA,ANTHONY ADDRESS: 4511 NEWPORT RD MILLAND, WI 99999-0000 MEM#: 8374 HOME PHONE DOB: 99/99/9999 999-999-9999 SEX: M RxBen?: Y	Diabetes Diagnosis Freq: 5 Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II Last Diagnosis On: 07/15/2003 Last to Diagnose: UM CLINICS Last Diabetic Rx:	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	05/01/2002 05/21/2002 07/15/2003	6.4 196
Name: JAMES,JESSE ADDRESS: 6 SHOOTER LANE BANG, WI 99999-0000 MEM#: 3006 HOME PHONE DOB: 99/99/9999 999-999-9999 SEX: M RxBen?: Y	Diabetes Diagnosis Freq: 1 Last Diabetes Diagnosis: DIABETES UNCOMPL ADULT-TYPE II Last Diagnosis On: 10/31/2000 Last to Diagnose: JONES MD, DANNY Last Diabetic Rx: 06/06/2003 GLYBURIDE	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	10/31/2000 10/31/2000	NONE
Name: SIMBAD,DENNIS ADDRESS: 5677 VINE RD GONE, WI 99999-0000 MEM#: 2285 HOME PHONE DOB: 99/99/9999 999-999-9999 SEX: M RxBen?: Y	Diabetes Diagnosis Freq: 12 Last Diabetes Diagnosis: DIABETIC RETINOPATHY NOS Last Diagnosis On: 07/17/2003 Last to Diagnose: JONES MD, DANNY Last Diabetic Rx:	Last A1c: Last LDL: Last Micro-Albumin: Last Retinal Eye Exam:	10/09/2002 10/08/2002 09/07/2001 07/17/2003	7.0 135 NONE

TOOL #2

October 9, 2002

Lab Order Information
Member ID: *«memnum»*
Primary Site: *«pcpclinic»*
Ordering Provider: *«pcpname»*
Lab Order ICD9: *250.0*

«memname»
«address»
«city», WI «shortzip_a»

Dear Member,

XX Health Plan offers a program entitled "Living Well with Diabetes" to all health plan members age 18 and over with diabetes. XX Health Plan sends educational materials and reminders about needed laboratory and other tests to all members with diabetes. Two diabetic nurse educators and two nutritionists are available to help members learn about and better manage their diabetes. Appointments are available with these professionals for any member with diabetes at all three XX Health Plan clinic locations.

A review of our records indicates that you have diabetes and may be overdue for lab work related to diabetes. Periodic laboratory testing is *strongly* recommended by XX Health Plan to properly monitor and maintain the health of our members with diabetes. Therefore, I am asking that you visit our laboratory staff at one of the XX health plan's clinics listed at the bottom of this page. Your test result(s) will be mailed to you by your primary care provider (*«pcpname»)* approximately 2 weeks after the labs are drawn.

***** This letter will serve as a lab order for the following tests, and must be presented at your clinic's lab reception desk in order for the tests to be completed.***

1. **Blood lipid panel (REQUIRES 12 HOURS OF FASTING PRIOR TO TEST)**
2. **Kidney function (Microalbumin)**
3. **Blood Sugar Monitoring (Hemoglobin A1c)**
4. **Liver Enzyme Levels (ALT & AST)**

Our records also indicate that you may be ***due to have your eyes examined*** for diabetic retinopathy, a condition which could lead to vision problems, and even blindness, in some people with diabetes. Individuals with diabetes should receive an ***annual*** retinal eye exam, which includes checking for early signs of retinopathy. You are covered for this exam even if your insurance benefit does not include "vision" coverage. If you have not yet received a retinal exam in 2002, please schedule one with a XX Health Plan optometrist by calling (xxx) xxx-xxxx. If you have diabetes and have been receiving your eye health exams from an ophthalmologist, please contact your primary care provider for a referral.

Enclosed with this letter you will find educational material regarding diabetes. I hope you find the information interesting and helpful. On behalf of XX Health Plan, thank you for the continued opportunity to serve as your health care partner.

If you do not want to receive these mailings and information, you may ask to be removed from our disease management program by calling our Quality Management Department at xxx-xxx-xxxx.

Sincerely,

(signed by the Medical Director)

CASE STUDY #3

HMO BACKGROUND

- This HMO decided to implement diabetes-related improvement initiatives based on the national prevalence and burden of the disease.
- Diabetes was identified as one of the HMO's top 10 chronic diseases and ranked 17th out of the top 20 outpatient diagnoses as noted through administrative claims.
- The HMO had conducted quality improvement activities to improve diabetes management for the past several years. A health management program for diabetes was initiated in 1997.

METHODOLOGY

The HMO used HEDIS® 1999 methodology to obtain baseline data for the six Comprehensive Diabetes Care Measures: one/more A1c, A1c poor control (>9.5%), eye exam performed, LDL-C screening performed, LDL-C control (< 130/mg/dl), and nephropathy monitoring.

BASELINE HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	One or more A1c test	A1c poor control (>9.5%) ❖	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring
Baseline, HEDIS® 1999 (CY 1998 data)	72.8%	86.6%	28.8% ❖	80.9%	42.7%	45.4%

❖ Lower percent desired

BASELINE BARRIER ANALYSIS

In December 1999, the HMO identified the following barriers:

- Providers were not using diabetes flow sheets to record exams/tests.
- It was difficult to locate the results of past exams in the medical records.
- An educational program that was designed as a reminder initiative was discontinued by a vendor without notifying the HMO.
- There was a lack of medical recommendation for suggested testing.
- There was a need for member and provider education.

BASELINE INITIAL INTERVENTIONS

- The HMO sent letters to PCPs with a listing of their patients with diabetes and a diabetes flow sheet.
- The HMO published **articles about diabetes management** in **provider and member newsletters**.
- The HMO sent **memos clarifying coverage** of diabetes services to PCPs.
- The HMO **sent mailings on foot and eye care to all members with diabetes and sent a copy to their PCPs**.
- **Free glucometers** were offered to all members with diabetes.

RE-MEASUREMENT #1 using HEDIS® 2000 methodology for its first re-measurement period revealed improvements in rates for eye exams, A1c poor control, and LDL-C control, and nephropathy monitoring. Testing rates for A1c remained about the same and LDL-C screening rates decreased slightly.

HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	One or more A1c test	A1c poor control (>9.5%) ❖	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring
Baseline, HEDIS® 1999 (CY 1998 data)	72.8%	86.6%	28.8% ❖	80.9%	42.7%	45.4%
HEDIS® 2000 (CY 1999 data)	74.1%	86.9%	24.1% ❖	79.2%	53.5%	54.4%

❖ Lower percent desired

RE-MEASUREMENT #1 BARRIER ANALYSIS

The HMO's Diabetes Steering Committee (DSC) guided all activities. The DSC is comprised of primary care physicians, certified diabetes educators, dietitians, endocrinologists, and representatives from Quality Improvement and Care Management Departments. This DSC **met regularly** to develop and implement diabetes quality improvement interventions. A **Diabetes Work Team** arose out of the DSC and consisted of **various disciplines** from Disease Management, Quality Management, and Provider Relations, including RNs, an employee consumer, and staff from information technology.

The Diabetes Work Team reviewed the data and identified the following barriers:

- The HMO lacked a regularly updated database of HMO members with diabetes.
- There was inconsistent documentation of A1c results at point-of-care testing.
- The HMO did not regularly assess PCP educational needs.
- Physicians lacked feedback on the care of members with diabetes.
- There was no outreach system to contact members with diabetes.
- PCP offices lacked information on resources and diabetes educational materials.
- PCPs were unaware of the importance of testing for microabluminuria.
- Members lacked self-care skills and information on diabetes resources.
- Newly diagnosed members lacked consistent education.

INTERVENTIONS SUBSEQUENT TO RE-MEASUREMENT #1

- A **Diabetes Steering Committee** guided all activities.
- The HMO's developed a **registry/database.** Co-morbidity information and events, blood pressure, height, weight and interventions are manually entered. Lab values are transferred from the clinic and hospital database into the registry. Claims data for both labs and other claims also populate the registry. The registry is the source for reporting information and also has the capability to do mail merges so letters can be individually addressed to either members or providers. Mailings are entered into the registry as interventions. Each member has a list of interventions that can be viewed by case managers or shared with practitioners.
- **Nurse practitioners** were hired to work in endocrinology.
- The HMO sent a **listing of members with diabetes to all PCPs** [**tool #1**].
- PCPs received a list of members with diabetes who didn't have an A1c in the past year [**tool #2**].
- The HMO adopted and distributed the most recent version of ***The Essential Diabetes Mellitus Care Guidelines*** (Guidelines) to all their PCPs.
- The HMO published **diabetes-related articles** and information about the **HMO's Diabetes Health Management Program** in the provider newsletters.
- The HMO also sent **periodic written and e-mail memos to PCP**s (e.g., regarding the importance of microalbuminuria screening, clarification of coverage for diabetes services, notice of CME opportunities, etc. The medical director signed some of the correspondence [**tools #3, #4**].
- The HMO sent post cards to members about the Diabetes Health Management Program (e.g., with **information about the availability of diabetes educators**).

- The HMO published diabetes-related articles in the **member newsletter** (e.g.," Flu Shot Facts", "Community Calendar", "A Focus on Improving Health Care", "What Causes Fatigue", information on Exercise and Weight Control, updates on preventive care guidelines, information on screening for diabetes and flu and pneumococcal vaccines).
- The HMO sent **letters to members** with diabetes who had not had an eye exam in 1999.
- The HMO sent direct mailings to members with diabetes who did not have claims for blood glucose test strips to offer free blood glucose meters. Copies of the information were also sent to the member's physician.
- The HMO sent flu shot **reminders** and information about diabetes (e.g., the importance of eye exams and A1c testing, reminders to check feet daily, information on healthy eating and food choices, and a listing of available audio recordings about diabetes, etc.) to members with diabetes.
- The HMO provided free foot screenings and conferences on diabetes topics (e.g., "Dealing with Diabetes", "Put Your Best Foot Forward").

RE-MEASUREMENT #2 was consistent with HEDIS® 2001 methodology and revealed improvements in the rates for four of the six Comprehensive Diabetes Care Measures: A1c testing, A1c poor control, LCL-C screening, and LDL-C control. Diabetes eye exams and nephropathy rates showed slight decreases.

HEDIS® COMPREHENSIVE DIABETES CARE MEASURES

	Diabetes eye exam performed	One or more A1c test	A1c poor control (>9.5%) ❖	LDL-C screening performed	LDL-C control (<130g/dl)	Nephropathy monitoring
Baseline, HEDIS® 1999 (CY 1998 data)	72.8%	86.6%	28.8% ❖	80.9%	42.7%	45.4%
HEDIS® 2000 (CY 1999 data)	74.1%	86.9%	24.1% ❖	79.2%	53.5%	54.4%
HEDIS® 2001 (CY 2000 data)	73.8%	93.8%	15.9% ❖	85.5%	63.2%	52.6%

❖ Lower percent desired

RE-MEASUREMENT #2 BARRIER ANALYSIS

The HMO Diabetes Work Team reviewed the data and identified the following barriers:

- There was a lack of provider and member education.
- Provider educational needs were not known.
- The HMO lacked a means to gather information from providers regarding the status of care of members with diabetes and mechanisms for feedback on the various problems facing the system and HMO.
- There was a lack of communication between PCPs, ophthalmologists, and optometrists.

INTERVENTIONS SUBSEQUENT TO RE-MEASUREMENT #2

The Diabetes Work Team evaluated and revised its program activities to ensure that the focus of the interventions was consistent with the HMO's goals and used resources effectively.

- The HMO continued to offer CME opportunities. Several topics included "Diabetic Foot Screening/Diabetic Osteoarthropathy" (by a podiatrist), "Protocol for the Management of Diabetic Complications", and the updated Wisconsin Diabetes Mellitus Care Guidelines. **Audio-conferences were offered but didn't get much participation**. The HMO **asked for feedback on education needs from the PCP**s, who reported that they wanted training on very specific topics, such as updates on insulin management and new therapies.
- The HMO continued to publish articles in the **provider new**sletter (e.g., "Diabetes Health Management Program", "Summary of Important Revisions to Cholesterol Management Guidelines", "Wisconsin Diabetes Guidelines Updated", etc.).

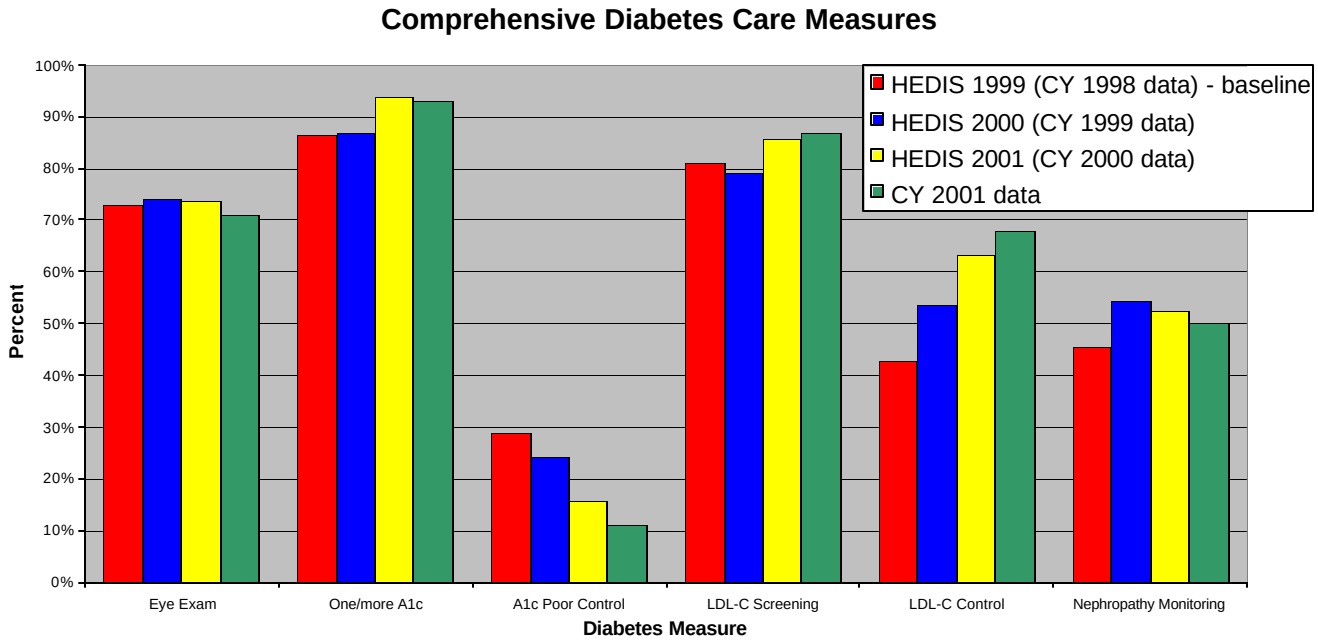
- The HMO launched a **quality improvement website** that included information on diabetes resources for the system.
- The HMO also provided a **listing of diabetes resources available** (e.g., diabetes educators and registered dietitians available for referrals in the system, case management services, etc.) to PCPs and office staff.
- The medical director and endocrinologist sent memorandums to **remind PCPs** to order eye exams and spot urine tests for albumin/creatinine ratio on a yearly basis [**tools #5, #6**].
- The HMO sent **letters to PCPs** listing their patients who may be eligible for the **Diabetes Health Management Program** and requested appropriate referrals.
- The HMO continued to send direct mailings and publish diabetes-related articles in the member newsletter.
- The HMO continued to **offer free blood glucose meters** to members with diabetes (providers were also informed of patients who received the meter offer).
- The HMO provided a **motivational session** on exercise, diet, and lifestyle change for members.
- The HMO offered **10-week diabetes education program** designed to help members with dieting, food choices, and physical activity.

RE-MEASUREMENT #3 was not totally consistent with HEDIS® 2002 methodology. A smaller size sample than previous years was assessed for 2001; thus, the data are not completely comparable for CY 2001.

COMPREHENSIVE DIABETES CARE MEASURES ⌘

	Diabetes eye exam performed	One or more A1c test	A1c poor control (>9.5%) ❖	LDL-C screening performed	LDL-C control (<130 mg/dl)	Nephropathy monitoring
Baseline, HEDIS® 1999 (CY 1998 data)	72.8%	86.6%	28.8% ❖	80.9%	42.7%	45.4%
HEDIS® 2000 (CY 1999 data)	74.1%	86.9%	24.1% ❖	79.2%	53.5%	54.4%
HEDIS® 2001 (CY 2000 data)	73.8%	93.8%	15.9% ❖	85.5%	63.2%	52.6%
(CY 2001 data) ⌘	71% ⌘	93% ⌘	11% ❖⌘	87% ⌘	68% ⌘	50% ⌘

❖ Lower percent desired
⌘ CY 2001 data collection not consistent with HEDIS® 2002 specifications (rates are based on a smaller sample)



RE-MEASUREMENT #3 BARRIER ANALYSIS

- There was a lack of appointment access to dietitians.
- Documentation of A1c results was inconsistent at the point-of-care.
- The HMO had created group classes created for lipid instruction, but they were not included as a covered benefit.
- Offices lacked access to easily understood educational materials.
- Educational needs of physicians were not addressed regularly.
- Tests for microalbuminuria were not reordered if the initial test failed testing criteria.
- Provider panels of members with diabetes were not accurate.
- Providers were confused about testing for microalbuminuria (e.g., which test to order).
- Members lacked an understanding of the need and importance for diabetes tests.

INTERVENTIONS SUBSEQUENT TO RE-MEASUREMENT #3

- The HMO continued to **collaborate with PCP offices** to provide outreach to targeted members with diabetes.
- The HMO **worked with enrollment** staff to continue to contact members. They sent reminder and clarification information about needed tests to all members with diabetes and continued the quarterly newsletters.
- **Targeted mailings** were sent to members with A1c > 8.5%, encouraging them to get tested.
- The HMO also offered free glucometers to members who didn't have claims for glucose strips.
- **Provider Relations (PR) distributed posters to PCPs** to remind them of lab value goals. PR staff persons periodically visited clinics to provide resources and meet with the PCPs and/or clinic managers.
- The HMO continued to provide educational opportunities to its providers. They sent: a diabetes booklet to PCPs to serve as a consistent resource for their offices, monthly newsletters, and e-mail updates on new info (e.g., pre-diabetes, treatment of hypertension, JAMA articles, conferences/training, diabetes case management, etc.)

- The HMO offered a Health Fair in a local mall and invited all members with diabetes. Diabetes education and testing services were available.
- A **system-wide team** addressed dietitian shortage.

ONGOING CHALLENGES

The HMO's diabetes program is challenged to continue to develop its system-wide supportive team efforts, including implementation of specific interventions to encourage members to get their dilated eye exams each year, enhancement of communication and education for members and staff within the health system, collection of timely and accurate data for all members, identification of appropriate and cost effective interventions, and continued investigation into figuring return on investment.

LESSONS LEARNED
• The HMO's Diabetes Health Management Program and aggressive efforts contributed to significant improvements in A1c control.
• The positive experiences of the Diabetes Steering Committee and special Work Teams were helpful in spreading improvement initiatives to other areas within the health system.
• Ongoing collaboration with PCP offices is vital to effectively implement initiatives.
• Up-to-data, accurate data are crucial for physician buy-in with provider profile interventions.
• Providers need regular reminders and clarification of recommendations for essential services.
• Efforts to improve the care of providers inside the health system are more challenging than in those outside the health system.
• The HMO's providers do not participate much in traditional CME activities; however, they are interested in education on very specific topics, such as new therapies.
• Simple, easy-to-understand educational resources are essential for members.

TOOLS INCLUDED WITH THIS SUMMARY

#1: Member Panel Report Letter
#2: Member A1c Report Letter
#3: Memo from Medical Director
#4: Memo from Medical Director
#5: Eye Care Provider Memo
#6: Member Eye Report

TOOL #1

Date

Dear Healthcare Practitioner,

This health plan is committed to improving the health and well being of our members. To accomplish this goal, we have implemented various quality initiatives, case management protocols, and health management programs.

Health management programs can be defined as systems in place to:

(1) Identify members eligible for specific health care programs
(2) Establish a process to contact these members
(3) Implement actions to assist in their care.
It is a process of intensively managing a disease, with an emphasis on prevention and maintenance.

In 1997, a health management program was established for diabetes. Our diabetes health management program can help support your efforts as a healthcare practitioner, by providing case management to promote effective diabetes management and control. Participation in a health management program is voluntary and is provided at no cost to our members.

Attached you will find your **Member Panel Report** which is a list of this health plan's members identified by claims data as diabetic (Commercial HMO and Medicare and Point of Service lines of business) who have listed you as their primary care practitioner. Please note that this claims data may not be entirely accurate.

- **Please identify the member with an asterisk for whom you are not the PCP or you do not handle the member's diabetes, and return it in the enclosed envelope.**
- **If you would like to have any of your member panel put into the case management program, please circle their name and return this report in the enclosed envelope**. Our Member Services Department will contact the member for the correct information.

If you have any questions or comments regarding the Diabetes Disease Management Program, or if you would like to make a referral for case management, please call xxx-xxx-xxxx.

Sincerely,

Diabetes Disease Management Program Team

TOOL #2

Dear Practitioner:

The attached letters may be sent to your diabetic patients who have not had an A1C in the past year or whose A1C results were greater than 8.4% in the past three months. The purpose of this letter is to raise the patient's awareness of this test's importance. Additionally, it informs the patient how well his or her blood glucose has been controlled. We found that 50% of those patients who received a letter instructing them to have an A1C lab drawn have complied.

Please accept my apologies if the information is inaccurate. We are working within the constraints of the data retrieval system, which does not reflect the A1C tests in the last four weeks.

You may also find that a member is listed as your patient, though you have not seen him or her. XX Health Plan pulls this data based on member information, meaning that some members have listed you as their provider even though you do not see them. We are not allowed to change this information without contacting the member. If you inform XX Health Plan that you do not see this patient, XX Health Plan's Customer Service will contact the patient and correct the information.

If any patient is not diabetic, please make a note on the letter and return it to Provider Relations. We will adjust our Diabetes Database to reflect this information.

If you do not wish to use these letters, please return the letters to Provider Relations.

As always, we appreciate any comments you have regarding this intervention or others that we might provide to enhance the use of the Wisconsin Diabetes Control Program Guidelines.

Sincerely,

Care Management

TOOL #3

MEMORANDUM

To: PCPs
From: Medical Director
Subject: Urine Albumin/Creatinine Ratios
Date: October 2002

Colleagues,

Please remember to order a spot urine sample for albumin/creatinine ratio on a yearly basis in your patients with diabetes as outlined.

Continual assessment and reassessment of diabetes related complications and the potential for those complications is a hallmark of excellent care of individuals with diabetes.

Recent reviews of test ordering practices among primary care physicians within the XX Health Plan system have shown wide variations in the frequency with which urine albumin/creatinine ratios are ordered in patients with diabetes. The American Diabetes Association recommends that all patients with Type 2 diabetes have this test done yearly and patients who have had Type 1 diabetes five years or more and are post pubertal should also have this done on a yearly basis.

Elevated albumin/creatinine ratios are correlated with increased risk of diabetes-related kidney disease and are a predictor of cardiovascular and all-cause mortality, helping to further classify a subgroup of diabetic patients who are at extraordinary high risk for bad cardiovascular outcomes/death.

The good news is that if a patient with diabetes is found to have an elevated albumin/creatinine ratio, and it is confirmed either with a second value or with a 24 hour urine collection for total protein (and results show greater than 30 milligrams of protein per day), intervention in the form of tightening blood sugar control, a low-protein diet, tightening blood pressure control, and particularly usage of an ace inhibitor markedly decrease the risk of development of end-stage renal disease and may very well decrease cardiovascular risk.

TOOL #4

Kidney Function Test

The Wisconsin Diabetes Guidelines notes that a microalbuminuria test should be completed once a year on every type 2 diabetic. Screening of type 1 diabetics for microalbuminuria should begin with puberty or after 5 years of the disease onset.

More frequent screening may be indicated for those with type 1 or 2 diabetes who have:

- A family history of end-stage renal disease and/or hypertension
- A chronic history of poor glycemic control
- High blood pressure (greater than 130/80)
- An African-American, Hispanic or Native American heritage

The types of screening the Wisconsin Diabetes Guideline recommends are:

- Random microalbuminuria
- Random albuminuria / creatinine
- 24 hour urine for protein
- Consultation with a Nephrologist if there is greater than 1 g proteinuria/day or sCr greater than 1.5 or an estimated CrCl less than 60 ml/min, if there is a rapid decline in renal function, or if HTN is refractory to treatment

Why is it important to do this test?

Diabetes accounts for 35-40% of all new cases of end-stage renal disease. After 17 years of type 1 diabetes, 30-40% of patients have overt nephropathy (> 300mg/24 h) and 50% of these patients will reach ESRD without intervention. The course of diabetic nephropathy in type 2 diabetes is more variable. 20-50% have microalbuminuria at the time of diagnosis, and 5-10% have overt proteinuria at diagnosis. Progression to ESRD in type 2 diabetes is more variable and depends on development of overt nephropathy and the control of risk factors.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) states that control of blood glucose and blood pressure reduce the rate of progression of renal disease in diabetes. Once it is known that a person has microalbuminuria, they should be treated with an ACE inhibitor or ARB if it is not contraindicated. ACE inhibitors or ARB's are renoprotective independent of their effects on blood pressure.

Studies have shown that random microalbuminuria testing can accurately determine protein leakage in a small sample of urine by measuring its protein and creatinine concentration.

To slow down the progression of renal disease the NIDDK recommends:

- Blood sugar control (have your patient's blood tested for A1C every quarter if not controlled and two times a year if very well controlled – A1C < 7.0)
- Blood pressure control (goal is <130/80 if proteinuria is less than 1 gram/day or <125/75 if greater than 1 gram/day)
- Use a ACE inhibitor or ARB if not contraindicated
- Dietary protein reduction is controversial

TOOL #5

To: Optometrist and Ophthalmologists
From: Diabetes Disease Management Team
Date:
Subject: Diabetic Retinal Eye Exam Form

As part of our Diabetes Disease Management Program, we are evaluating the care received by our members with diabetes, based on the Wisconsin Essential Diabetes Care Guidelines. These *Guidelines* have been adopted by XX Health Plan as its clinical guidelines for diabetes care since 1999. Annual dilated eye exams are an important part of the *Guideline*s. During a review of diabetic charts performed in (year), only xx % contained evidence of a dilated eye exam in the medical records used by their Primary Care Practitioner (PCP). Our perception is that many of our diabetic members are receiving dilated eye exams, but results are not being forwarded to the PCP, for inclusion in their medical records. It is well documented in the literature that coordination of care among medical practitioners is an important element in the quality of the patient's care.

We have developed a simple form for optometrists and ophthalmologists to use that communicates pertinent exam findings to the member's PCP. Similar forms are used by other health plans. The form was developed and revised with input from health plan's eye care providers, PCP's and members of the Diabetes Steering Committee. We are asking that you initiate use of this form when you perform a dilated eye exam on a XX Health Plan member with diabetes. If you are in the same clinic as the PCP, and use a combined medical record, use of the form may not be necessary.

Included are 20 copies of the form for your use. You are welcome to photocopy the form onto your letterhead if you wish. I would also be happy to send the document via e-mail.

I also recognize that you serve as another vital link to our diabetic population. If you would like any additional information about our clinical guidelines, or need information about the resources available to our members with diabetes, please call me. We have a variety of patient education materials available, which can be forwarded to you.

Thank you in advance, for using the attached form, or something similar, to communicate results of annual eye exams. Please give me a call at xxx-xxx-xxxx, if you have additional questions or comments. I can also be reached via e-mail at _____.

TOOL #6

Diabetic Retinopathy Patient Report

Patient: _____DOB:_____

Primary Care Provider_____

Dear Primary Care Provider:
The above-named patient was seen on _____ for a dilated eye examination.

The results of this examination reveal the following:

No diabetic retinopathy present	OD	OS
Mild background diabetic retinopathy present	OD	OS
Severe background diabetic retinopathy present	OD	OS
Preproliferative diabetic retinopathy present	OD	OS
Proliferative diabetic retinopathy present	OD	OS
Clinically significant macular edema present	OD	OS

No clinical change — Moderate change
Mild change — Significant change

Recommended Plan:

Progress evaluation suggested in ____ weeks months years (circle one)
Type of treatment planned: _____
Referred back to Primary Care Provider for evaluation of diabetic status.
Referral needed for further evaluation.

_____
Ophthalmologist/Optometrist/Date

CHART COPY

Reviewed by:

_____
Signature of PCP/date

Forward to Medical Records for filing